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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MEHRA, INDER P

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 10/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,125

Applicant(s)

WEST ET AL.

Examiner

Inder P Mehra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Amendment

1. This is in response to amendment 'A' dated 8/13/02.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6, 7, 11, 15, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Hiscock et al** (US Patent No. 6,058,116), hereinafter Hiscock.

Regarding claims 1-4, 11, 19 and 20, Hiscock discloses, in reference to figs. 1, 2A, 2B, and 4, mesh 10 in fig. 1; transmit queue 41 (ingress interface); receive queue 42 (egress interface); traffic steering means 44 (scheduler) to choose MAC 48 and to dequeue data from the ingress queue (ingress buffer) and examine the packet to transmit it in consultation with database 46 for onward transmission to egress output/buffer or edge device or external destinations (asynchronous transmission), refer to col. 3 line 53 through col. 4 line 10.

Regarding claims 6, 7, and 15 Hiscock discloses a overflow indicator being set in order to select the set of MAC 48 which are eligible to go in use and rejects any list which is overflowed, refer to col. 4 lines 63-67 through col. 5 lines 1-6, (flow control signal to prevent access to -----egress interfaces); and temporarily store data at egress buffers 42, fig. 2A.

Claim Rejections - 35 USC § 103

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 8-10, 13-14, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hiscock et al** (US Patent No. 6,058,116), hereinafter, Hiscock in view of **Ku et al** (US Pub. No. 2002/3385567), hereinafter, Ku.

Regarding claims 5, 13-14 and 21, Hiscock discloses traffic steering means 44 (scheduler) to choose MAC 48 and to dequeue data from the ingress queue (ingress buffer) and examine the packet to transmit it in consultation with database 46 (segregates incoming data) for onward transmission to egress output/buffer or edge device or external destinations; sender's node trunk or edge device 'ID', MAC addresses of edge device receiving "hello signal" (a user identifier); a list overflowed indicator (overflow 'ID'), refer to col. 2 lines 62-64 and col. 4 lines 52-65;

Hiscock does not disclose expressly a session identifier, a quality of service (QOS), a priority, as recited by claims 5, 13 and 21, a deadline, and a service class;

Ku discloses, in reference to figs. 6, 8, and 9, a session identifier (multi-cast or uni-cast, refer to page 8 paragraph 0091, a quality of service (QOS), a priority, refer to page 13 paragraph 0139, a deadline, and a service class, refer to page 5 paragraph 0062.

Ku discloses scheduled transmission according to priorities (as recited by claim 13), refer to page 13 and paragraph 0139; and further, discloses data communications, such as, ATM,

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frame relay, and TDM (telecommunications data, as recited in claim 14), refer to page 3 paragraph 0042.

A person of ordinary skill in the art would have been motivated to employ Ku's switch into Hiscock's interconnected trunk cluster arrangement in order to identify the appropriate user and priority of transmission. The suggestion/motivation to do so would have been to prevent congestion and loss of packets. It would have been obvious to a person of ordinary skill in the art to steer traffic to another port or prevent access to egress port through scheduler.

Regarding claims 8, 10 and 17, Hiscock discloses ingress buffer 41 in fig. 2A (ingress interface) transfer data to egress output buffer as steered by traffic steering 44; and packet for transmission across the mesh, refer to col. 3 lines 54-55;

Hiscock does not disclose shared egress buffer for eventual transmission; and fixed length cells;

Ku discloses, in reference to fig. 5, switch wherein ingress interfaces transfer data to shared egress buffer 618, each egress buffer including a data store for each of the plurality of egress port, as recited in claim 17, schedule and retrieve data for transmission to the destination (port A-D out), refer to fig. 5, and refer to page 7 paragraph 0078, page 13 lines paragraph 0139 and claim 1.

Ku further discloses external equipment 112 (ingress interface) operating in accordance with any of communication protocols, such as, ATM (fixed length) and frame relay (variable length packets utilized with in the domain 100 (network/mesh) to destination 122 (egress interface), refer to page 3 paragraph 0042 and claims 1 and 2

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A person of ordinary skill in the art would have been motivated to employ Ku's switch into Hiscock's interconnected trunk cluster arrangement in order to facilitate transmission via shared egress buffer. The suggestion/motivation to do so would have been to prevent congestion and loss of packets. It would have been obvious to a person of ordinary skill in the art to steer traffic to another port or prevent access to egress port through scheduler.

Regarding claim 9, Hiscock discloses a overflow indicator being set in order to select the set of MAC 48 which are eligible to go in use and rejects any list which is overflowed, refer to col. 4 lines 63-67 through col. 5 lines 1-6, (flow control signal to prevent access to -----egress interfaces); and temporarily store data at egress buffers 42, fig. 2A.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hiscock et al** (US Patent No. 6,058,116), hereinafter, Hiscock and further in view of **Huscroft et al** (US Patent No. 5,889,778), hereinafter Huscroft.

Regarding claim 12, Hiscock discloses queues and buffers 41, fig. 2A and refer to col. 4 line 1, wherein data is stored from ingress; Hiscock discloses TCMP agent 45 in combination with traffic steering 46 in fig. 2A (scheduler);

Hiscock does not disclose expressly FIFO buffer;

Huscroft discloses FIFO buffer 52 in fig. 5 receiving data from incoming cells, refer to col. 4 lines 37-46;

A person of ordinary skill in the art would have been motivated to employ Huscroft's

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ATM layer device into Hiscock's interconnected trunk cluster arrangement in order to prepend and postpend routing information. The suggestion/motivation to do so would have been to identify the cells. It would have been obvious to a person of ordinary skill in the art to use FIFO buffer in order to regulate the flow of transmission of data across the mesh

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hiscock et al** (US Patent No. 6,058,116), hereinafter, Hiscock, and further in view of **Hunt et al** (US Patent No. 6,201,809), hereinafter Hunt.

Hiscock discloses overflow indicator, refer to col. 4 line 63;

Hiscock does not disclose expressly retransmission of data until the associated egress port and buffer accept the previously refused data;

Hunt discloses overrun of destination host by the source host, refer to col. 6 lines 30-33; further, discloses retransmission of data by the source host, refer to col. 8 lines 59-60; and also determines that the segment being transmitted was already delivered to the destination host, and, therefore, need not send duplicate data, refer to col. 8 lines 60-65;

A person of ordinary skill in the art would have been motivated to employ Hiscock's System into Hunt's lower layer flow control system in order to retransmit packet information and restore the flow control. The suggestion/motivation to do so would have been to identify the packets which might have been lost due to congestion or overflow at the egress port. It would have been obvious to a person of ordinary skill in the art to retransmit the lost packet until the associated port accept the previously refused packet, and also to maintain the flow of transmission of data across the mesh.

8. Regarding Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hiscock et al** (US Patent No. 6,058,116), hereinafter, Hiscock in view of **Ku et al** (US Pub. No. 2002/3385567), hereinafter, Ku and **Kadambi et al** (US Patent No. 6,154,446), hereinafter Kadambi.

Regarding claim 18, Hiscock discloses queues 42 for egress port in fig. 2 A;
Ku discloses storage of packet data in buffers 618, fig. 5 for egress ports;

Hiscock in view of Ku does not disclose expressly storage of packet data in each of the ports according to an associated class;

Kadambi discloses storage per class of service, refer to col. 13 lines 56-58;

A person of ordinary skill in the art would have been motivated to employ Kadambi's network switching architecture and Ku's switch into Hiscock's system in order to store data in egress storage buffers.. The suggestion/motivation to do so would have been to integrate packets according to class of service . It would have been obvious to a person of ordinary skill in the art to integrate data and facilitate identification of data as well as its destination.

Response to Argument

9. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any enquiry concerning this communication should be directed to Inder Mehra whose telephone number is (703) 305-1985. The examiner can be normally reached on Monday through Friday from 8:30AM to 5:00 PM. If attempt to reach the examiner by telephone is unsuccessful,

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the examiner's supervisor, Seema Rao, can be reached on (703) 308-5463. Any enquiry of a general nature of relating to the status of this application or processing should be directed to the group receptionist whose telephone number is (703) 305-4700.

11. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to (703) 872-9314.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive,
Arlington, VA, sixth floor (Receptionist).

Inder Mehra
Inder Mehra 10/21/02

October 20, 2002

Melvin Marcelo
MELVIN MARCELO
PRIMARY EXAMINER